What is claimed is:

1. A medical system, comprising:

an implantable medical device;

a first elongated lead body including a first elongated insulated conductor and a connector formed at a proximal end; the connector including a first electrical contact adapted to be electrically coupled to the implantable medical device;

a second elongated lead body including a second elongated insulated conductor and a connector formed at a proximal end; the connector including a second electrical contact, the second electrical contact of the second connector adapted to be electrically coupled to the implantable medical device;

a first low voltage electrode joined to the first lead body and coupled to the first contact of the first connector via the first conductor, the first electrode adapted for intimate contact with tissue at an implant site;

a second low voltage electrode joined to the second lead body and coupled to the second contact of the second connector via the second conductor; and

a porous layer formed over the second electrode, allowing conduction therethrough while preventing contact between the second electrode and tissue in proximity to the implant site;

wherein, when the first connector and the second connector are electrically coupled to the medical device and the first electrode is contacting tissue at the implant site, the first electrode and the second electrode form a bipolar pair for stimulation of tissue at the implant site.

2. The medical system of claim 1, wherein the second electrode includes an outer surface, the porous layer includes an outer surface, and the second lead body includes an outer surface; the outer surface of the second electrode recessed from the outer surface of the second lead body and the outer surface of the porous layer isodiametric with the outer surface of the second lead body.

3. The medical system of claim 1, wherein the porous layer comprises silicone.

4. The medical system of claim 1, wherein the porous layer comprises polyurethane.

5. The medical system of claim 1, wherein the porous layer comprises expanded PTFE.

6. The medical system of claim 1, wherein the porous layer comprises collagen.

7. The medical system of claim 1, further comprising means to promote wetting of the porous layer.

8. The medical system of claim 7, wherein the means to promote wetting comprises a wetting agent applied to the porous layer.

9. The medical system of claim 8, wherein the wetting agent comprises a surfactant.

10. The medical system of claim 7, wherein the means to promote wetting comprises a surface treatment of the porous layer.

11. The medical system of claim 1, wherein the porous layer has a thickness between approximately 0.005 inch and approximately 0.020 inch.

12. The medical system of claim 1, wherein the porous layer includes pores having sizes ranging, on average, between approximately 0.4 micron and approximately 50 microns.

13. The medical system of claim 12, wherein the pores have sizes ranging, on average, between approximately 0.4 micron and approximately 10 microns.

14. The medical system of claim 12, wherein the pores have sizes ranging, on average, between approximately 10 microns and approximately 20 microns.

15. The medical system of claim 12, wherein the pores have sizes ranging, on average, between approximately 20 microns and approximately 50 microns.

16. The medical system of claim 1, wherein the porous layer is adapted to prevent chronic tissue ingrowth.

17. The medical system of claim 1, wherein the first low voltage electrode is implanted in a cardiac vein.

18. The medical system of claim 17, wherein the second low voltage electrode is implanted in a right ventricle.

19. The medical system of claim 1, further comprising a high voltage electrode and wherein the second lead body further includes a third insulated conductor and the second connector further includes a third electrical contact; the high voltage electrode joined to the second lead body, isolated from the second electrode, adapted for defibrillation stimulation and coupled to the third electrical contact via the third insulated conductor.

20. A medical system, comprising:
an implantable medical device;

a first elongated lead body including a first elongated insulated conductor and a connector formed at a proximal end; the connector including a first electrical contact adapted to be electrically coupled to the implantable medical device;

a second elongated lead body including a second elongated insulated conductor and a connector formed at a proximal end; the connector including a second electrical contact, the second electrical contact of the second connector adapted to be electrically coupled to the implantable medical device;

a first low voltage electrode joined to the first lead body and coupled to the first contact of the first connector via the first conductor, the first electrode adapted for intimate contact with tissue at an implant site;

a second low voltage electrode joined to the second lead body and coupled to the second contact of the second connector via the second conductor; and

means for preventing the second electrode from stimulating tissue in proximity to the second electrode;

wherein, when the first connector and the second connector are electrically coupled to the medical device and the first electrode is contacting tissue at the implant site, the first electrode and the second electrode form a bipolar pair for stimulation of tissue at the implant site.